USEPA/DTSC Conference Call –Hunters Point Statistical Analysis
Friday, April 28, 2017, 9:30 am

Dial-In Number: (866) 299-3188, Conference Code: 5762106383

- At the end of the day, we have to have a protective cleanup, one way or another, that all of us can stand behind. I need to listen to my experts, who recommend using multivariate Principal Component Analysis (PCA) methods. Parcel C was the first one analyzed. Your consultants reported a 32% false positive rate.

- Nevertheless, we propose to move forward using the Navy's original plans using the univariate analysis and descriptive statistics, mindful of the associated uncertainties.

- Given the uncertainties, robust sampling coverage is the best way to increase confidence in protectiveness of the cleanup. Uncertainties from statistical analysis are due to the many types of falsification, data quality concerns, and diversity of site conditions, and all the statistical tools have their limitations. We're glad to hear from Navy staff that the Navy is already expanding the scope of the sampling, and we look forward to seeing the Navy's proposed sampling plan in the upcoming months.

- EPA previously recommended sampling in areas of allegations, higher risk before remediation, known contamination, and random areas where areas are not already covered by preceding categories. This sampling plan must include some underline random sampling in areas with insufficient coverage. We will continue working with the Navy to narrow the scope based on evidence.

- For each parcel, as we receive the results from univariate analysis, then EPA or Navy should do parallel independent initial multivariate analysis on priority areas of multiple parcels.
    - These will include the survey units not flagged by univariate analysis.
    - The Navy should give explanations for the determination for "false positive" survey units. Some of these may also benefit from multivariate analysis.
    - If Navy does the multivariate analysis, then EPA's statistician will give guidance to Navy statistician, and EPA will review the Navy results.

- If we see any concerns along the way, then we bring them to your attention. If concerns are significant, we may recommend increased sampling, increased multivariate analysis, or other forms of increased protections. Even if EPA does initial analysis, since the Navy already committed to using PCA anyway, the Navy should do any further work that is needed.

- We will learn more after the first round of sampling. Depending those results to ground-truth various statistical approaches, EPA may, in the future, recommend more sampling, multivariate analysis, and/or increased protections.

- In addition to sampling and analytical methods, if more unaddressed concerns are identified, we should all be open to consideration of other forms of protections as contingency measures (e.g. increased worker monitoring, increased depth of durable cover in development, etc.)

In addition, I want to step back and look at the overall schedule big picture.

- On Parcel C, the consultants finished their statistical analysis and found 22% previously suspected locations where falsification is "likely" or "too close to call." Together with the units already confirmed to have falsification, this means 33% of survey units for which falsification is known, likely, or too close to call so far.

- After addressing soil confirmation samples, the team will need to address alleged falsification in gamma scans of backfill and of trenches between soil samples and alpha scans of buildings. Each parcel will need all these issues resolved before it can be transferred.

- Note also potential enforcement.

- The Navy is currently addressing all parcels at the same time. The City's priorities for transfer have been Parcels B and G. We should consider revisiting focusing on priority parcels.

Note: Internal, pre-decisional, deliberative – please protect as confidential

Background information

On Parcel C, the independent consultants have found the following:

	Number of survey units	% of total
Total	79	100%
Already known falsification	9	11%
Statistical analysis found previously unidentified falsification likely	7	9%
Statistical analysis found previously unidentified falsification "too close to call"	10	13%
False postivies	25	32%
Not flagged	33	41%

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